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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,191	09/13/2006	Giuseppe Sassanelli	72NP154552	3317
52082 7590 07/31/2007 GENERAL ELECTRIC CO. GLOBAL PATENT OPERATION 187 Danbury Road Suite 204 Wilton, CT 06897-4122			EXAMINER VERDIER, CHRISTOPHER M	
			ART UNIT 3745	PAPER NUMBER
			NOTIFICATION DATE 07/31/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/596,191	Applicant(s) SASSANELLI, GIUSEPPE	
	Examiner Christopher Verdier	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9-13-06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6-2-06</u> . | 6) <input type="checkbox"/> Other: _____ |

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Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not contain the clause "I acknowledge the duty to disclose information which is material to patentability of this application in accordance with 37 CFR 1.56."

It incorrectly states "I acknowledge the duty to disclose information which is material to the examination of this application in accordance with 37 CFR 1.56."

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the curved line being a hyperbolic line (claim 3), the curved line being a combination of a parabolic line and a hyperbolic line (claim 4), and the curved line being a third degree line (claim 5) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

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drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: Appropriate correction is required.

On page 3, line 3, it refers to claim 1, which is improper. It is suggested that on page 3, line 3, "claim 1" be changed to -- the claims --.

On page 4, line 5, "from below" should be deleted because this is an incorrect description of the view.

Claim Objections

Claim 7 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, line 12 recites, "said at least second degree curved line". There is insufficient antecedent basis in the claims for this phrase.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 6/1, 6/2, 7/1, 7/2, 7/6/1, and 7/6/2 (as far as they are definite and understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Caubet 2002/0061249 (figures 1-3). Disclosed is a variable nozzle 36 for a gas turbine (see paragraph 2, lines 1-4, which refer to a turbojet engine which is a gas turbine, and paragraph 3, lines 1-5 which refers to the prior art turbojet engine which is a gas turbine) fixed to a shaft (near 38), the variable nozzle comprising an unnumbered pressurized upper surface and an unnumbered depressurized lower surface

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opposite to the upper surface, the variable nozzle comprising a series of substantially C-shaped sections, each having a first rounded end and a second rounded end, each section of the series of sections also having the concavity facing upwards with respect to an imaginary base and arranged one after another continuously, in the direction of an axis 38 of the shaft along a curved line, the curved line being a second degree curved line which lies on an imaginary surface having an axis orthogonal to the axis of the shaft and also tilted with respect to the base by an angle. The curved line is a parabolic line. The curved line has a maximum point or a minimum point. The upper surface is saddle-shaped.

Claims 1-2, 6/1, 6/2, 7/1, 7/2, 7/6/1, and 7/6/2 (as far as they are definite and understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Wheeler 4,995,786 (figures 2 and 4-5). Disclosed is a variable nozzle 66/84 for a gas turbine fixed to a shaft 60/76, the variable nozzle comprising an unnumbered pressurized upper surface and an unnumbered depressurized lower surface opposite to the upper surface, the variable nozzle comprising a series of substantially C-shaped sections, each having a first rounded end and a second rounded end, each section of the series of sections also having the concavity facing upwards with respect to an imaginary base and arranged one after another continuously, in the direction of an axis of the shaft along a curved line 58/74, the curved line being a second degree curved line which lies on an imaginary surface having an axis orthogonal to the axis of the shaft and also tilted with respect to the base by an angle. The curved line is a parabolic line. The curved line has a maximum point or a minimum point. The upper surface is saddle-shaped. The imaginary base may be arbitrarily drawn such that each section of the series of sections has the concavity facing

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upwards with respect to the imaginary base and the second degree curved line lies on an imaginary surface having an axis orthogonal to the axis of the shaft and also tilted with respect to the base by an angle.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6/3, 7/3, and 7/6/3 (as far as they are definite and understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheeler 4,995,786 in view of Kronogard 4,172,361. Wheeler discloses a variable nozzle substantially as claimed as set forth above, but does not disclose that the curved line is a hyperbolic line (claim 3).

Kronogard (figure 4) shows a gas turbine engine having a variable guide vane 40, the leading edge forming a curved hyperbolic line 42 relative to an unnumbered shaft, for the purpose of making possible big angles of inclination while maintaining vane strength, resulting in a high reduction of flow losses.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the variable nozzle of Wheeler such that the curved line is a

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hyperbolic line, as taught by Kronogard, for the purpose of making possible big angles of inclination while maintaining vane strength, resulting in a high reduction of flow losses.

Claims 5, 6/5, 7/5, and 7/6/5 (as far as they are definite and understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over either (Caubet 2002/0061249 or Wheeler 4,995,786) in view of Weingold 5,088,892. Caubet or Wheeler disclose variable nozzles substantially as claimed as set forth above, but do not disclose that the curved line is a third degree curved line (claim 5).

Weingold (figure 7) shows a variable guide vane 38 for a gas turbine engine (column 8, lines 8-11), having a spanwise curved line 52 that is a stacking axis and that may be a third order curved line, for the purpose of providing increased efficiency.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the variable nozzle of either Caubet or Wheeler such that the curved line is a third degree curved line, as taught by Weingold, for the purpose of providing increased efficiency.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dekeyser is cited to show a gas turbine with tilted, C-shaped variable nozzles.

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Allowable Subject Matter

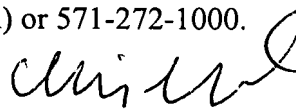
Claims 4 and 6/4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.V.
July 20, 2007


Christopher Verdier
Primary Examiner
Art Unit 3745